

Application of RFID Technology in Corporate Libraries

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What is RFID?

RFID stands for Radio Frequency Identification. This technology was first utilized during World War II to track allied planes. Today, this technology is being used for asset tracking and management / inventory purposes.¹⁴

How does RFID work?

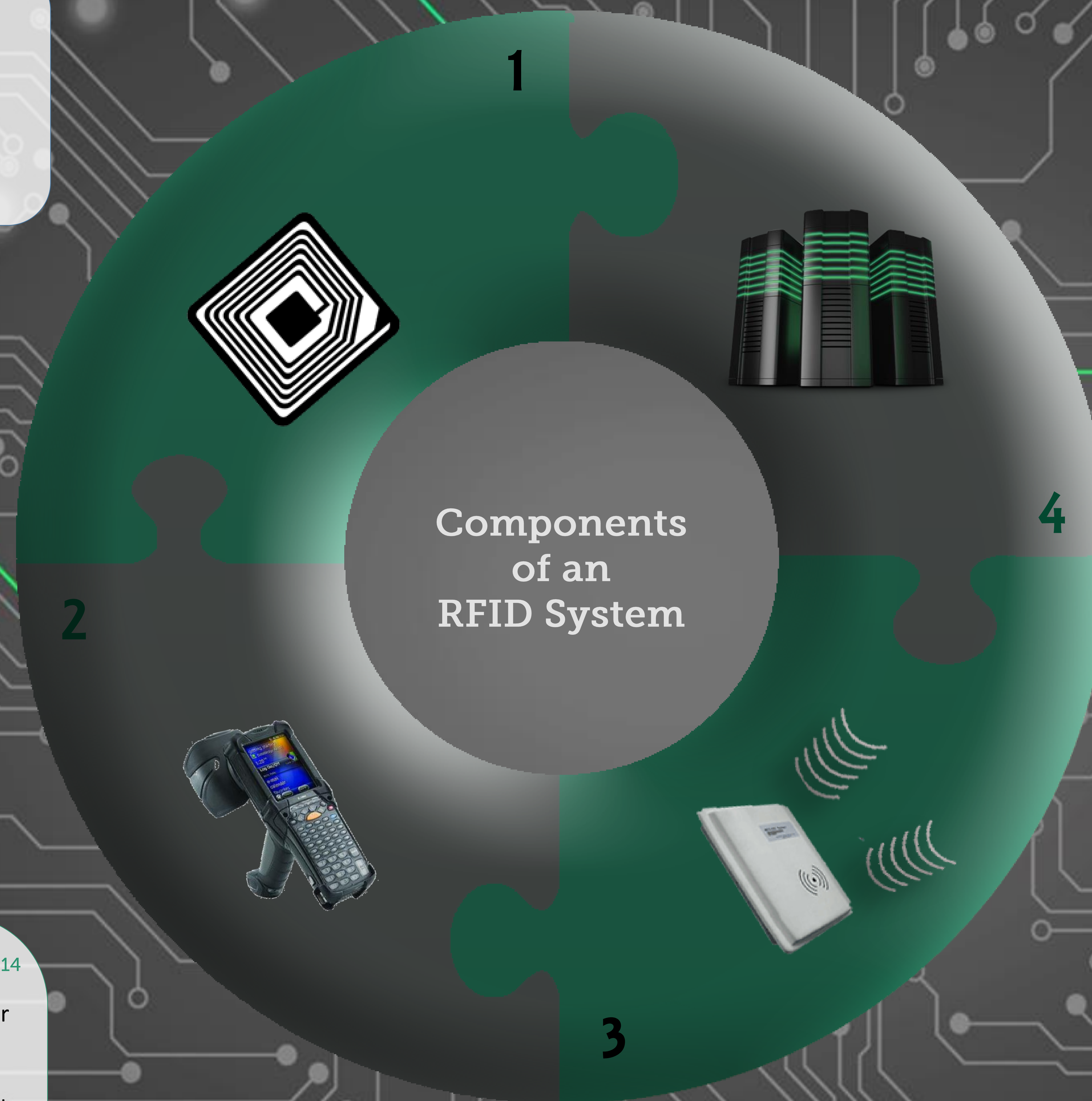
RFID tags are attached to an item and are then able to be 'read' by corresponding tag readers which communicate with a designated server to display the embedded tag data.³

Passive RFID tags are powered by radio frequencies transmitted from the reader. These tags are small, inexpensive, and have a long life span. The estimated cost for each tag is between 7-10 cents depending on brand.¹¹



Components of an RFID System¹⁴

1. **RFID Tags:** can be found inside a book or file cover or directly on a CD or Video disk. The tag is equipped with a programmable chip and antenna.
2. **RFID Reader:** detects the signal from the Tag when it enters into its radio range and decodes the number for interpretation.
3. **Antenna:** connected to the RFID Reader to help process identification of tagged items and to simultaneously activate/deactivate the tag's antitheft function.
4. **Server:** receives information from one or more of the RFID Readers and exchanges information with the circulation database to display the Tag's data.



Benefits of RFID in the Library⁷

- ✓ **Rapid Charging / Discharging:** Response times of less than 100 milliseconds reduce circulation time and offer faster, more reliable self-checkout transactions.
- ✓ **High Reliability:** Vendors claim 100% detection rate of materials with a 50-75% reduction in false alarms.
- ✓ **Protection Against Theft:** Exit sensors at library can read materials to determine whether or not they had been properly discharged and an alarm is triggered if the item has not been checked out.
- ✓ **High-Speed Electronic Inventorying and Item Searching:** The handheld tag reader can scan multiple tags at once to check against library inventory records and can sense when materials are misshelved. The scanner can also use an item's tag ID to perform a reverse search to look for missing materials in the library.

Fish & Richardson P.C. Case Study⁵

In 2003, this patent and trademark law firm switched its file library system to RFID, in hopes that automated file tracking would reduce the many hours its legal secretaries, paralegals, and attorneys spent searching for files.

They installed a RFID tracking system in their library with a single tracking pad RFID reader near the exit. Each staff member was issued an RFID-enabled ID card that could be placed on the pad reader to record which files were in their possession.

Before the RFID system was implemented, the company had a 35% accuracy for locating files. Afterwards, they had a file location accuracy of 98%.



Bibliography

RFID Video Resources

